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EXAMINER

GORTAYO, DANGELINO N

ART UNIT	PAPER NUMBER
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2168

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,444

Applicant(s)

BRUNDAGE ET AL.

Examiner

Dangelino N. Gortayo

Art Unit

2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is response to Applicants' Amendment filed 4/18/2006.
2. Claims 1-23 are pending in this application

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-8, 10-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Kiernan et al. ("Kiernan" US# 6,934,712 B2).

4. As per claim 1, Kiernan teaches "method for semantic representation of one or more XML language inquiries across relational and non-relational data sources" (see Abstract)

“receiving at least one inquiry” (column 3 lines 56-58);

“defining at least one node object for every operation within the at least one received inquiry” (column 14 lines 38-46 wherein the query is converted to a language neutral intermediate representation);

“translating each of the at least one node objects using operators” (column 5 lines 3-4 and column 6 lines 7-11, wherein the intermediate representation is made from the XML query);

“generating a semantic representation from the operators” (figure 2 reference 210, 220 and column 4 line 66 – column 5 line 4, wherein a parser converts a query to an intermediate representation);

“the semantic representation explicitly describes a meaning of the one or more XML language inquiries” (column 5 lines 57-63, wherein the intermediate representation describes how a query is executed).

As per claim 2, Kiernan teaches “the semantic representation is an intermediate language representation formed for interpretation and execution by a target query engine” (column 5 lines 57-63)

As per claim 3, Kiernan teaches “wherein the non-relational data sources comprise one or more of a text document, a spreadsheet, and a non-relational database” (column 15 lines 15-22).

As per claim 4, Kiernan teaches “the generating step further comprises breaking down high level operations of the received inquiry into explicit parts” (column 5 lines 57-63).

As per claim 5, Kiernan teaches “the explicit parts are common across multiple XML languages” (column 12 lines 14-31 wherein the explicit parts are translated into SQL, which can be used by multiple XML languages).

As per claim 6, Kiernan teaches “the operators comprise one or more of special operators, data sources, literals, Boolean operators, sequence operators, arithmetic operators, string operators, value comparison operators, node comparison operators, tuple spaces, function definition and invocation, XML navigation, XML construction, XML property accessors, type operators, language specific operators, and data manipulation operators” (column 5 line 64 – column 6 line 25 wherein sequence operators, XML navigation, and XML construction operators are used).

As per claim 7, Kiernan teaches “forming a graph data structure of the at least one node object” (column 2 lines 54-61 wherein a tagger graph is composed of nodes holding operators).

As per claim 8, Kiernan teaches “at least one received inquiry comprises one or more of an XML query language and an XML view definition language” (column 5 lines 17-28 wherein XML queries is defined using the XML-QL language).

As per claim 10, Kiernan teaches “the semantic language representation allows XML queries over XML views of relational data” (column 13 lines 43-53 wherein the tagger operators in the tagger graph can be used to generate XML output and is equivalent).

As per claim 11, Kiernan teaches “semantics interpreter for expressing a meaning of one or more of an XML query and an XML view across multiple data source” (see Abstract);

“an input for receiving the one or more of an XML query and an XML view which form an inquiry” (column 4 lines 9-23);

“a graph structure generator for defining node objects for every operation within the inquiry” (column 5 lines 5-7, “rewrite engine”);

“a translator for assigning operators for each node object wherein the operators break down operations of the inquiry into explicit parts” (column 5 lines 8-11, “translator”);

“output for providing the explicit parts as an intermediate language representation for expressing the meaning of the one or more of an XML query and an XML view” (column 5 lines 12-16 wherein the combination of SQL queries and tagger instructions shows the output from an intermediate representation).

As per claim 12, Kiernan teaches “the multiple data sources comprise relational and non-relational data sources” (column 3 lines 51-54 and column 15 lines 15-18)

As per claim 13, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 3 and is similarly rejected.

As per claim 14, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 6 and is similarly rejected.

As per claim 15, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

As per claim 16, Kiernan teaches “the intermediate language representation is formed for interpretation and execution by a target query engine” (column 7 lines 59-64 wherein the tagger graph stems from the intermediate representation to execute the input).

As per claim 17, Kiernan teaches “A computer-readable medium having computer-executable instructions for performing a method of intermediate language representation of a received inquiry” (column 4 lines 34-40);

“receiving one or more of an XML query and an XML view forming the received inquiry” (column 3 lines 56-58);

“defining node objects for every operation within the received inquiry” (column 14 lines 38-46);

“translating each node using operators which break down operations of the received inquiry into explicit parts” (column 5 lines 3-4 and column 6 lines 7-11, wherein the intermediate representation is made from the XML query);

“generating instructions corresponding to the explicit parts forming an intermediate language representation for subsequent queries over one or more of relational and non-relational data sources” (column 5 lines 12-16 wherein the combination of SQL queries and tagger instructions shows the output from an intermediate representation).

As per claim 18, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 6 and is similarly rejected.

As per claim 19, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

As per claim 20, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 8 and is similarly rejected.

As per claim 21, Kiernan teaches "A computer system for generating a semantic representation of an inquiry" (column 4 lines 24-33);

"a processor for executing computer instructions and at least one module" (column 4 lines 9-23);

"an input function for receiving one or more of an XML query and an XML view which forms the inquiry" (column 4 lines 9-23);

"a graph structure generator for defining node objects for every operation within the inquiry" (column 5 lines 5-7, "rewrite engine");

"a translator function for assigning operators for each node object wherein the operators break down operations of the inquiry into explicit parts" (column 5 lines 8-11, "translator");

"an output for providing the explicit parts as an intermediate language representation for expressing a meaning of the XML query and the XML view" (column 5 lines 12-16 wherein the combination of SQL queries and tagger instructions shows the output);

"wherein the at least one module comprises one or more of one or more software modules and one or more hardware modules" (column 4 lines 34-40)

As per claim 22, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 6 and is similarly rejected.

As per claim 23, this claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiernan et al. ("Kiernan" US# 6,934,712 B2) in view of Marron et al. ("Marron" US # 6,901,410).

6. As per claim 9, Kiernan teaches "at least one received inquiry" (column 3 lines 56-58).

Kiernan does not expressly disclose "comprises one or more of an XPath, an XSLT, an XQuery, a DML, an OPath, and an Annotated Schema inquiry".

Marron discloses "comprises one or more of an XPath, an XSLT, an XQuery, a DML, an OPath, and an Annotated Schema inquiry" (column 3 lines 61-67 wherein the query inputted into the system is an Xpath query, and can be many other query languages).

It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Kiernan's method to translate and output XML queries with Marron's ability to process XPath queries. This gives the user the advantage of being able to use XPath queries, as well as other query languages, with Kiernan's system of processing and outputting queries. The motivation for doing so would be to improve and optimize the performance of data retrieval using XML queries.

Response to Arguments

7. Applicant's arguments filed 4/18/2006 have been fully considered but they are not persuasive and details are stated below:

- a. Applicants' argument stated as "Kiernan et al. does not teach a semantic representation that explicitly describes a meaning of the one or more XML language inquiries"

In response to the Applicants' argument, examiner respectfully disagrees because Kiernan teaches that an XML query is parsed and transformed into a language neutral intermediate representation, which is a sequence of operations describing how the output document is derived from the underlying relational tables (column 2 lines 42-46). This intermediate representation stems from an XML query targeting a virtual document. The intermediate representations represent operations needed to establish selection of the document,

relationships, and structures from the query, describing the query response (column 5 lines 57-63). For Kiernan, the meaning of the query is operations used for an output view in response to the query. The query is parsed and compared to an intermediate representation showing the operations found in a XML query (column 14 lines 38-46). The intermediate representation also includes operations to construct new XML elements from data bindings, and the meaning of the inquiry is known to construct new elements (column 5 lines 3-4 and column 6 lines 7-11)

b. Applicants' argument stated as "the tagger graph of Kiernan et al. cannot be the semantic (intermediate) representation because Kiernan et al. requires that the intermediate representation to exist before a tagger graph is generated"

In response to the Applicants' argument, the tagger graph is not the intermediate representation but rather what is generated from the intermediate representation. The operators from the query are represented in the intermediate representation and are generated by the parser. (Figure 2 reference 210).

Applicant is reminded that a rejection is covered by the breadth of the patent referenced, not just the cited section. The semantic representation of Applicant's Claim 1 is taught in the intermediate representation, a sequence of operations stemming from the inputted query and describing the way a query is read and executed (column 4 line 66 – column 5 line 4 and column 5 lines 57-63). In Kiernan's case, the operations from the query deal with the marking up of output from the XML query.

- c. Accordingly, Kiernan discloses “a semantic representation that explicitly describes a meaning of the one or more XML language inquiries”.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dangelino N. Gortayo whose telephone number is (571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dangelino N. Gortayo
Examiner



Tim T. Vo
SPE

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